XIX.

Some new Jaspidiinae and Catocalinae mainly from the Sudan and now in the Munich Zoological Museum

Among some material, mostly taken in the Sudan by Dr. R. Remane, submitted to me for determination by the Zoologische Sammlung des Bayerischen Staates München, were the following forms apparently undescribed. Though politically part of the Middle East and therefore eligible for inclusion in this series, the parts of the Sudan from which these forms come, are, obviously Ethiopian rather than Palearctic in character. Some of them however penetrate the Palearctic Region in the Eremic zone.

At the end of the article I append a few taxonomic notes relating to other parts of the Middle East.

Sub-family: Jaspidiinae

Porphyrinia kruegeri sp. n. (Pl. V, Fig. 12, 13)

(= **Autoba gayneri** Krüger 1939 nec Rothschild).

Palp, frons, vertex, collar, thorax and abdomen, straw-ochreous.

Fore femur and tibia ochreous, fore tarsus brown, white-banded.

Mid-leg, coloured as fore-leg; tibia long, slightly thickened.

Hind-leg, straw ochreous except tarsus, which is yellow-brown and white-banded. Tibia slightly thickened with 2 pairs of spurs.

Fore-wing, straw ochreous, basad whiter than elsewhere, strongly marked with parallel, curving, olive brown bands as follows: — basal fascia, beginning at $^1/_3$ costa, running obliquely inwards, reaching $^1/_4$ hind-margin at right angles; two median bands defining a slightly darker median area in which a roughly rectangular black reniform stigma, containing a few paler whitish scales, is placed closer to the postmedian than the ante-median. The post-median line begins at about $^3/_4$ costa and is in-curved below the cell; it is edged with white distally and reaches $^2/_3$ hind-margin. Submarginal area, wale olive chreous brown, defined on the outside by a broad dark brown terminal area, the dividing line being edged white proximally and containing scattered black scales. Termen, pale brown. Fringe brown. Hind-wing, brown, with faint white lines. Termen and fringe as on fore-wing.

Under-side, both wings, straw-ochreous, more creamy on fore-wing costa, browner marginad, with post-median band black or dark brown, clearest at costa of both wings; cell-spot similarly marked, larger and linear on hind-wing. Termen and fringe, as upper-side.

Span : -15 mm.

♂ genitalia,(see fig. 1.) valve, very slim, elongated; the double harpe, characteristic of this genus, is not very prominent, the setose part being oblong, while the slender spine projects noticeably distally and in the same alignment. Aedeagus, fairly long and slim, with slender upcurved caecum and about ten very small cornuti in a row in the vesica.

Holo-TYPE ♂ & para-TYPE ♂ (Prep. WM. 195): — SUDAN, Kassala Province, Erkowit, 1000-1300 m., 21. v. 61 & 2. vii. 62 respectively, leg. Remane, in voll. München.

Allo-TYPE ♀, same data as para-type ♂.

Para-TYPE ♀, same locality as others, 28. vi. 62, Remane, in coll. Wiltshire.

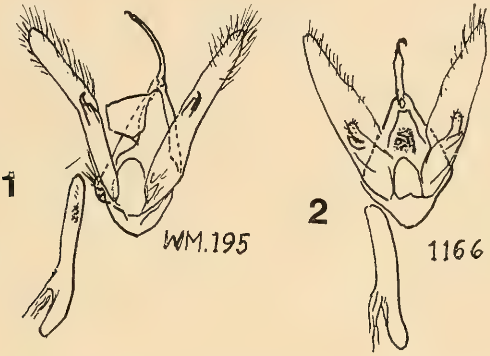

Fig. 1: *Porphyrinia kruegeri* sp. n. ♂. (WM. 195).
Fig. 2: *Autoba gayneri* Roths. ♂. (1166).

A good figure of this species appeared in Krüger, G. C., 1939, Notizie sulla fauna Sirtica occidentale: Lepidotteri. (Ann. del Mus. Libico di St. Nat. I. p. 317 ff.) but wrongly determined under the name *Autoba gayneri* Roths. Its occurrence in the Libyan Syrtis shows that it penetrates suitable habitats in the Palearctic desert zone, presumably those with *Acacia*. The genitalia of *Autoba gayneri* are illustrated in Fig. 2 for comparsion, and that moth itself was illustrated in my recent article "The Lepidoptera of Bahrain" (Journ. Bombay Nat. Hist. Soc. **61,** 1, 119 ff, Pl. 3, figs 10 & 11.)

Pseudozarba morosa sp. n. (Pl. V, Figs. 10 & 11).

This new species is congeneric with both *Apamea bipartita* H. S. (Europ. Schmett., II, p. 285, Noct. f. 175 (1845) and *Xanthoptera mesozona* Hampson, Proc. Zool. Soc., 1896, p. 261, X. f. 9. Both these species have been placed by later authors in *Eulocastra,* and Staudinger 1898 (Iris, X, p. 295, t. IV, f. 26) proposed the genus *Thalerastria* for the former, of which genus however in 1897 he made *diaphora* Stgr. the type species. In fact the name *Pseudozarba* Warren must be used for *morosa, bipartita* and *mesozona* and the many other species in this perplexing group; the type species is *opella* Swinhoe, taken at Karachi. In my 1948 work I first pointed out the genitalia differences between this group and *Thalerastria diaphora* Stgr., but I was wrong there to follow Hampson in using the name *Xanthoptera* Guenée for the genus containing *mesozona* (= *mediana* Stgr.). The type species of *Xanopthera* Guenée 1852 is the American species *nigrofimbria* Guenée which is not congeneric. The type species of *Eulocastra* is *fasciata* Butler, an Australian moth which differs strikingly in palp-form, neuration and habitus (facies) from the other species under consideration, and illustrated in the Plate (Figs. 1-13.) It is strange that Warren in Seitz III wrote: "*Eulocastra:* neuration, normal. Type: — *E. fasciata* Butler." In the example of *fasciata* which I examined, the fore-wing neuration was not normal, for nervure 12 failed to reach the costa, 11 was absent, 10 was stalked with 8 & 9, and 7 & 6 were connate but separate from 8-10; in *Pseudozarba* neuration is normal, i. e. all veins are present, and only 8 & 9 are on a long stalk, connate with 7. The different species of *Pseudozarba* are numerous in the Tropics and a revision, based on genitalia, is awaited. The new species hereunder described is not the only one in this genus in the Sudan; *Ps. bipartita* H. S., originally described from Sicily, also flies there.

The new species can be distinguished in pattern from *bipartita* and from *mesozona* Hampson by its darker aspect, the base of the forewing being so infuscated as to approach but not quite equal the median area in darkness; in this it resembles the East African species *Ozarba cupreofascia* LeCerf (which is doubtless also to be placed in *Pseudozarba)* but differs as follows in colouring and pattern of fore-wing: in *cupreofascia* the basal and median areas are uniformly infuscated, and the distal edge of the dark area is more angular than that of *morosa;* this edge, which might also be called a black median line, is only slightly concave between the costa and the cubital nervure in *morosa* while in Le Cerf's type in the Paris Museum it is twice slightly angled, firstly inwards close to the costa, and secondly ouwards on the median nervure. *Eulocastra soudanensis* Rebel & Zerny 1916, to judge from the excellent coloured plate in the original description, differs from both in having a paler fore-wing base and a much darker submarginal area, the pale brown post-median area being much narrower.

Span: 16-18 mm., not differing from *mesozona* or *bipartita.*

Genitalia of ♂: more like those of *mesozona* (illustrated in my 1948 work referred to, fig. 40, p. 267 and again illustrated here) than those of *bipartita,* which lack the sclerotised costal processes near the valve-tip characterising most other *Pseudozarba* species and thus approach the *Ozarba* valve form; the new species may however be distinguished from *mesozona* by the formation of these costal processes: in *mesozona* both of them stand out far from the valve-tips like crooked fingers, while in the new species only that of the left valve does so; that on the right valve is not dorsally directed but keeps close to the valve tip, being short and thick. In *morosa,* also, the two fibulae which replace the harpes in the middle of the valves, are shorter and stouter than those of *mesozona.* There are also other differences in the valves which cannot be described briefly in words but which are quickly apparent in a drawing; I give figures of the ♂♀ genitalia of these three species (Figs. 3-5, 7-9).

Genitalia of ♀: — posterior and anterior apophyses of about equal length, ovipositor lobes normal; 8th sternite widely sclerotised. The characteristic ostium lacks the long sclerotised lateral band-like borders found in the other species here studied. Genital plate, like a wide shallow purse, more convex proximally than distally. Ductus bursae, sclerotised irregularly close to the ostium and with a small sclerotised bulb next to the ostium, but becoming weaker and narrower proximally as it approaches the bursa. Bursa, only slightly longer than ductus, membronous, pear-shaped, wrinkled with parallel folds minutely pitted, with a long linear signum ventrally and a shorter similar signum dorsally; the former consists of about four,

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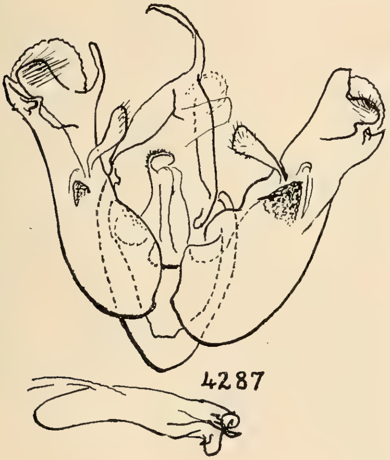

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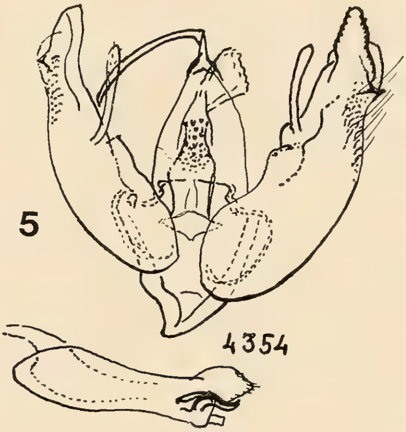

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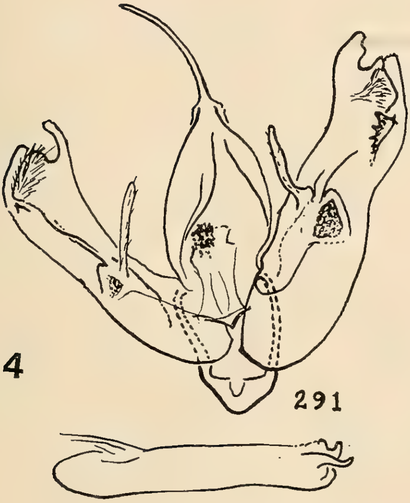

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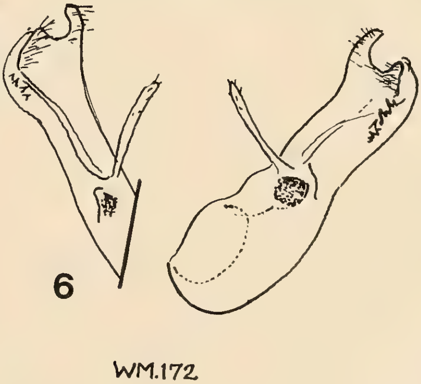

Fig. 3: *Pseudozarba morosa* sp. n. ♂. (BMN. 4287).
Fig. 4: *Pseudozorba mesozona* (Hamps). ♂. (291) (Buraiman, W. Arabia).
Fig. 5: *Pseudozarba bipartita* (HS.) ♂. (WM. 194) (Sicily).
Fig. 6: *Pseudozarba* sp. ♂. (WM. 172) (Sarobi, Afghanistan).

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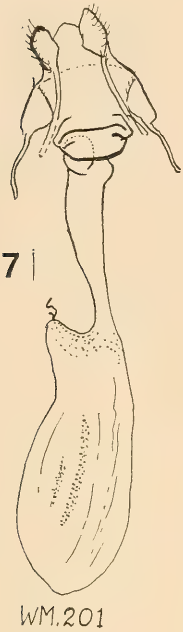

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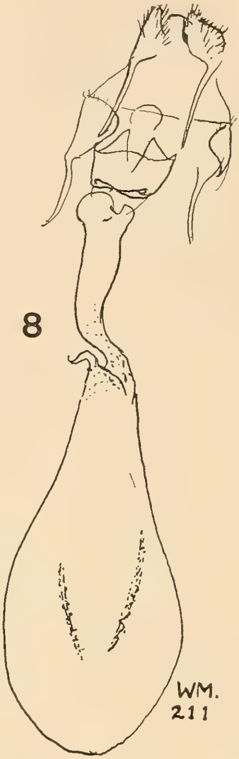

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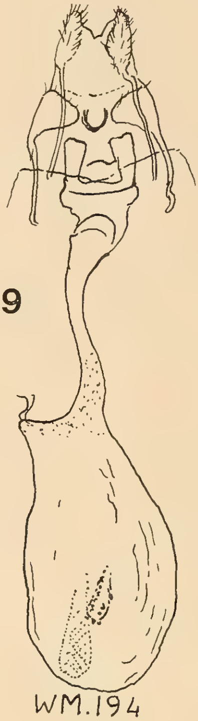

Fig. 7: *Pseudozarba morosa* sp. n. ♀. (WM. 201) (Hudeiba, Sudan).
Fig. 8: *Pseudozarba mesozona* (Hamps.) ♀. (WM. 211) (S. Iran).
Fig. 9: *Pseudozarba bipartita* (HS.) ♀. (WM. 194) Sicily).

the latter about three parallel lines of minute spicules; the longer one is about half the length of the bursa. The bursa also has a shoulder-like cervix on one side of the entrance of the ductus, from which the ductus seminalis takes off, and this part is pitted but no less transparent than the rest of the bursa. On the whole the bursa is very similar to that the congeneres; the differences are rather to be found in the ostium and Ductus bursae.

Holo- and allo-type, ♂♀, (Pr. WM. 201) SUDAN, Ed Damer, Hudeiba, 16. & 15. viii. 62, leg. R. Remane coll. Zool. Mus. München.

Para-type: 1 ♀, Pr. WM. 201 (L), SUDAN, Blue Nile Province, Wad Medani, 2. viii. 62, leg. R. Remane, and 1 ♀, same data as holo-type, both in coll. Zool. Mus. München. Also 1 ♂, Pr. 1300, SUDAN, Wad Medani, 2. vii. 62, leg. Remane, in coll. mea. Also 1 ♂, (Pr. BM. Nocct. 4287) N. Nigeria, Zungeru, 29. iv. 1911, leg. Scott-Macfie, in Brit. Museum.

Other Pseudozarba species in the Middle East

The present article diagnoses three species, of which *morosa* appears not to be Palearctic. If one includes Afghanistan in the Palearctic Middle East, as is correct, there are at least two other species represented in the collection of the Zoological Museum Munich. Unfortunately it has proved impossible to determine these pending a revision of the Indian forms near *opella* Swinhoe.

One of these two has male genitalia very close to those of *mesozona*. Fig. 6 illustrates the differences. The other is a more reddish form. Both forms fly at Sarobi.

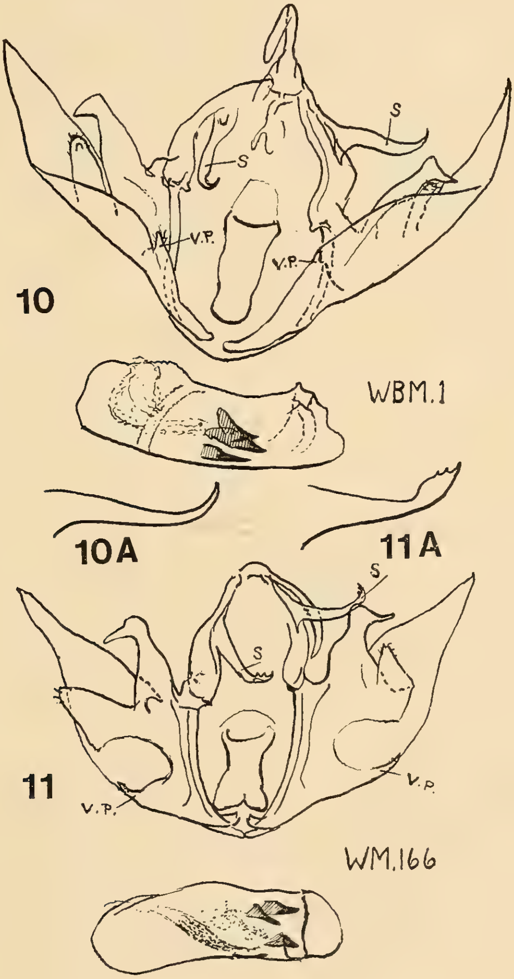

Fig. 10: *Grammodes euclidioides* Gn. ♂. (WBM. 1.) (Orange River Colony).
Fig. 10a: ditto, enlarged detail of Socius (S).
Fig. 11: *Grammodes euclidioides postfumida* subsp. n. ♂. (Holotype) (WM. 166) (Sudan).
Fig. 11a: ditto, enlarged detail of Socius (S).

Sub-family: Catocalinae

Grammodes euclidioides Gn. **postfumida** subsp. n. (Pl. V, Fig. 14)

The typical form, widespread in South and Central Africa, has orange-yellow hind-wings, of a lighter tone than the fore-wing, but this new form is slightly smaller and has smoky dull hind-wings, of similar tone to the fore-wing. As the male genitalia differ slightly, it cannot be considered an individual colour-form, and is best introduced as a subspecies, though admittedly the material is scanty.

Span: 23-24 mm.

The ♂ genitalia (Fig. 11) are very close to those of *euclidioides* Gn. but the socii tips (S) have three slight terminal hooks instead of tapering smoothly as in the typical form, and the sacculus-extension or ventral projection of the valve (VP) is longer and more pointed In one figure (Fig. 10) the ventral border of the valve of *euclidioides* is folded over which makes comparsion more difficult.

Holo-type, ♂, (Prep. WM. 166), SUDAN, Blue Nile Province, Wad Medani, 3. viii. 62, leg. R. Remane, in coll. Z. M. München.

Another specimen in coll. Z. M. München: Tanganyika, Ulougwe, Manjara-See, 16. XI. 59, leg. J. Popp.

Miscellaneous Notes

I have the following observations to make on the valuable article of F. Heydemann, A. Schulte & R. Remane "Beitrag zur Lepidopteren-Fauna des Irak" (Mitt. der Münch. Ent. Ges. J. 53, 1963).

I note that Dr. Heydemann considers that the name *tanitalis* Rebel should apply to the *Rivula* forms inhabiting Iraq, and also that it is *bona species*. Previously I had considered the small forms from Egypt, Cyprus, Iraq, Western Iran and Bahrain as a single subspecies of *sericealis* Scop. and I gave the latter name in my publications without adding a subspecific name. If Rebel's name is now to be used in a species sense, it should be noted that this smaller "species" has the range I have just indicated and is not confined to Iraq. Rebel's description does not apply too well to these forms viewed as a whole, but as I have now distinguished a slight difference in the female genitalia between them and European *sericealis*, I incline to think Dr. Heydemann may be right.

Catamecia jordana Staudinger was not omitted from my book as stated by the above authors, but appeared as 348a *Catamecia minima* Swinhoe. The synonymy of *jordana* was published by me in Bull. Soc. Fouad Ent. XXXIII, pp. 288-9 (i. e. in Part 2 of my work: "The Lepidoptera of the Kingdom of Egypt" (1949.)

Additions to the Egyptian Fauna

It may also be of interest to mention the following additions to the Macro-Lepidoptera of Egypt; all were taken by me during a brief stay at Ismailia, in the Canal Zone, Lower Egypt between March and May 1952.

Family: Noctuidae.

Mythimna languida Stgr. (previously known from Palestine, Algeria and Iraq.)
Sesamia wiltshirei Rungs 1965, published in the Moroccan paper: "Al Awamia" in that year.
Thermesia arefacta Swinhoe (previously known from Palestine, Iraq and Sind; here apparently at its westernmost limit.)

Family: Geometridae.

Scopula decolor Stgr. (det. Reisser) (described from Algeria).

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Wiltshire, E. P., 1948: The Lepidoptera of the Kingdom of Egypt Pt. 1. (Bull. Soc. Fouad. Ent. 32.)

ACKNOWLEDGEMENTS

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Explanation of Plate V

Fig. 1: „*Eulocastra*“ *mediana* Stgr. Type ♀ (Präp. WB 9), Jordan, Mus. Berlin

Fig. 2: „*Eulocastra*“ *mediana* Stgr. Type ♂ (Präp. WB 9), Jordan, Mus. Berlin

Fig. 3: *Pseudozarba mesozona* (Hamps.) (= *mediana* Stgr.), (Präp. WM. 211), Iran, Baloutchistan, Bender Tchahbahar, 2. 28, leg. F. Brandt

Fig. 4: *Pseudozarba mesozona* (Hamps.) (= *mediana* Stgr.). Iran, Baloutchistan, Bender Tschahbahar, 2. 38, leg. F. Brandt

Fig. 5: *Pseudozarba bipartita* H. Sch. ♀ (Präp. WM. 194) Sicilia, Casteldaccia 19. 8.

Fig. 6: *Pseudozarba bipartita* H. Sch. ♂ Sicilia, Casteldaccia 12. 9.

Fig. 7: *Pseudozarba bipartita* H. Sch. ♂ Tunis Umg., El. Gouina 9. 8. 60 leg. K. T. Müller

Fig. 8: *Pseudozarba bipartita* H. Sch. ♀ Tunis Umg., El Gouina 11. 8. 60 leg. K. T. Müller

Fig. 9: *Pseudozarba bipartita* H. Sch. ♂ (Präp. WM. 197) Sudan, Ed Damer, Hudeiba 31. 7. 62 leg. R. Remane

Fig. 10: *Pseudozarba morosa* sp. n. ♂ Holotypus (Präp. WM. 201) Sudan, Ed. Damer, Hudeiba 16. 8. 62 leg. R. Remane

Fig. 11: *Pseudozarba morosa* sp. n. ♀ Allotypus (Präp. WM. 201) Sudan, Ed Damer, Hudeiba 15. 8. 62 leg. R. Remane

Fig. 12: *Porphyrinia kruegeri* sp. n. ♂ Holotypus Sudan sept. or., Kassala Prov., Erkowit, 1000—1300 m, 21. 6. 61 leg. R. Remane

Fig. 13: *Porphygrinia kruegeri* sp. n. ♀ Allotypus Sudan sept. or., Kassala Prov. Erkowit, 1000—1300 m 2. 7. 62 leg. R. Remane

Fig. 14: *Grammodes euclidioides postfumida* ssp. n. ♂ (Präp. WM. 166) Holotypus, Sudan, Blue Nile Province, Wad Medani, 3. 8. 62, leg. R. Remane.

Plate V